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ABSTRACT

Structure as an aspect of educational setting is discussed and illustrated in the course of an argument indicating that efforts to change schools, including Project Follow Through, should aim to change structures rather than people. It is asserted that educational reform in America usually attempts to change people, especially children, and that this tendency is evident in Follow Through programs. Subsequent discussion illustrates the idea and importance of structure by describing an observational study of playgrounds. Specifically, playground structures appeared to (1) have strong, but not uniform, effects; (2) be designed into systems that can be modified but not radically changed; (3) reflect several goals and half-resolved compromises among those goals; and (4) be designed for adults as well as children. Other aspects of structure are delineated in a discussion of attempts to change the structure of a university sociology class. Concluding sections of the paper critique the mainstream of classroom research, provide suggestions for changing educational structures, and highlight three studies that illuminate the nature of school and classroom structure at the elementary level. (RH)

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ON STRUCTURE

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Classrooms, schools and school districts are organized places; they have structures. For now I shall use this word -- and be warned that I use it often -- in an inclusive way. In this paper, structure means that which is regular or predictable or which is felt and seen to be essential to the integrity of the system. For example, the daily schedule of events is one aspect of classroom structure which helps the teacher and students organize their day. Equally obvious is the teacher's predictable role as the person who stops and starts these activities. Less apparent is the nature of the evaluation system and its customary uncertainties.

My case is that some structures help people -- administrators, teachers and students -- to think and learn while other structures discourage and deter thinking and learning. I shall argue that efforts to change schools, including Follow Through (FT), should aim to change structures rather than people, a distinction I shall elaborate shortly. I shall also present the case that classroom structure means more than seating arrangements and grouping patterns, important as these may be for some purposes. I take the position that the origins of classroom structure lie beyond the classroom and, to a considerable extent, are beyond the teacher's control. I assert that structure originates in the institutional solution to the problem of engagement. All schools need to justify school attendance; they must create an incentive for an engagement. There are several possible solutions

to this problem, though I believe schools in late 20th C. America have adopted a uniform response to it. This solution has a powerful effect on school and classroom structures. Regretably, these structures are not ones which provide much opportunity or create a strong need for students to learn or to think. Of course, learning and thinking occur in schools; my point is these qualities are not fostered by the typical school structure. It follows that radical changes in classroom structure will require new solutions to the problems of engagement.

Educational reform in America is usually directed at changing people rather than changing structures. For example, an inservice will be held for teachers to make them more sensitive to cultural differences among students or a workshop will be held for administrators to make them knowledgeable about the guidelines of the federal law for the handicapped. One aims to alter attitudes, the other to transmit information. Typically the inservice will not examine the origins of cultural differences in the power relations of ethnic groups in society nor will the workshop discuss the law in terms of its structural implications for the division of responsibility among teachers, parents and administrators.

The tendency to equate school reform with people reform is most clearly seen in the emphasis on changing children. The vocabulary of school change is the vocabulary of children's cognitive and affective needs, their growth and mastery, their self-image and autonomy.

FT illustrates this tendency. Models are typically discussed in terms of their intended effects on children's cognitive and affective development.[1] The official research reinforces the point by its emphasis on test score changes. By contrast, very little has been written about the structural changes associated with FT models. Haney says that out of 7,000 pages of the major reports only 100 "give direct description of what goes on in FT classrooms."[2] A recent monograph on FT, written by the sponsors, similarly emphasizes test score changes while paying little attention to the structural changes associated with the FT models.[3]

An important reason for this emphasis is that FT treatments were once believed to be simple and fixed, and therefore easy to describe. It was assumed sponsors' plans would correspond with changes in the classrooms and that these changes would be reliably reproduced from site to site and from one year to the next. The FT evaluation is built on the notions of fixed and constant treatments. Dissemination, the ultimate goals of FT, is impossible unless models can be reproduced. But now we know better. The only research finding about FT which is not disputed is that FT models have different effects on different tests in different places at different times. It has been inferred, wisely or not, that the variation in effects reflects variable implementation. "Unmeasured local circumstances, including those associated

with implementation, still have had more influence on results than have the philosophies of the sponsors."[4] The frustration is we know so little about the nature of local variations. The evidence that exists suggest how hard it is to get good information about what models look like.[5] Researchers disagree about what to look for, they have difficulty observing consistently and getting agreement from different sources. These problems reflect the defects of social science but they also stem from the sponsors' descriptions of their models. As I have said, models are usually defined in terms of their effects on student outcome. Classroom and school structure are given secondary importance. These environments, or settings, are often described simplistically and the reader is left short of knowing the essence of the model. For example, classroom organization often translates into a discussion of the ratio of students to teachers. Materials boil down to questions about kits and workbooks. The teachers' role is defined by intentions such as; "teach appropriate skills", "be sensitive to unique learning styles", and "develop children's ability to work with others". There is nothing wrong with these accounts of models, but they don't convey a coherent feeling for what the model is like. Naturally, it is hard to describe complex evolutionary experiences on paper. But this problem may be compounded if we lack a vocabulary for talking about the structural qualities of classrooms or if these are overlooked in the attempt to describe models. Some of the available language is coarse (eg. traditional v. open). Much of it is highly

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elaborate, especially the instruments and specifications used by social scientists to describe classroom environments. on the one hand they are represented too simply, on the other in detail that is hard to manage. Possibly this confusion arises because we have either taken classroom structure for granted or misunderstood the reason it exists. In the next sections I shall develop some simple thoughts about structures.

The first illustration

I shall illustrate the idea and importance of structure by first describing a project on playgrounds. I wanted to develop my ideas in two directions. First I wanted to look at the effects of playground structures on the way children behaved and second I sought to analyse the origins of these structures. I searched out a variety of places where children play in downtown Los Angeles. One of these, the Children's Museum, provided the opportunity to look at the effects of structure on behaviour. The museum is a museum only by name. Rather than glass-cased collections, the place consists of many rooms which give children the chance to play with a truckload of Leggo, try one fireman's gear, make moving cartoons, paint their faces or act a TV news show among other things. One padded room, Sticky City, is filled with 200 foam rubber blocks of varied shapes and sizes. The structure of the room is best described by its size, its contents and the influence of the responsible adult. Its message to children is clear - (See Figure 1) They build and tear down towers and houses. They run and throw

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themselves at piles of blocks and then throw blocks at one another. Blocks get used as weapons and at this point the grownup usually steps in. After watching for a while, you see the same patterns of behaviour repeated; the structure dictates what children do. At the same time, children do a variety of things in the room. They tend to act wild, but they do this a dozen ways and some don't do it at all. Since children aren't forced to use the room, the uniformity of their behaviour is increased because kids who like that kind of thing will be drawn to it. So the first point is that the structure influences behaviour, but that the effect is not uniform. The second is that structure can be changed, but only within limits. The adults work shifts and with the changes come changes in the structure. For example, one adult allowed almost anything to happen. She spent most of her time protecting the strong from the weak. The room was a fast moving scene of building, destruction, sneak attacks and counterattacks. She was replaced with someone with different ideas. The new person first built an adult's version of a tunnel, 10 feet long right across the middle of the floor, squared off and complete. Then she carefully watched and controlled the children as they came into the room. Each was encouraged to crawl through the tunnel. In minutes the room was empty and lifeless except for one obedient girl who used the new setup the proper way. But before long two boys did what could be predicted; they destroyed the tunnel and started their own games. The original structure reasserted itself; the adult took her

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rest against a comfortable cushion. The observation, then, is that structure can be altered but within limits. The most important constraints and possibilities are a function of the design rather than the choices made by the adult.

By comparison, school playgrounds are stark places. (Figure 2) I used these to think about the origins and purposes of structure. The rhetoric is familiar. Children use them to let off steam; energy pent up after confinement to classrooms. Most elaborately, they are places children develop their physical ability and develop social skills with other children. Yet, without denying that school yards allow all kinds of development, it is hard to see that the structure is organized for more than the simplest purposes. They are large, barren expanses of hardtop, surrounded by ten foot cyclone fences. They are relieved by the marks of organized games: a baseball diamond, tetherball poles and a backboard. Of course, children invent all kinds of games in the yard, few having to do with the formal structure, and these games may succeed in reaching the loftier intentions of the people who designed playgrounds. So my third observation was that there is often a loose fit between designed structure and intended purposes.

Because I felt the fit between the official purposes and the setup was vague, I looked at the unstated purposes. I saw that playgrounds are not only set up for children; they are also organized for adults. Specifically, playgrounds are designed to be safe because teachers are responsible for children's safety. Parents of damaged

children are a vivid reminder of this responsibility. Safety engenders dullness. Hardtop ensures children won't get muddied knees, and makes it easier to keep the area free from things they would fall over. The sensible climbing frame is designed to prevent falls and pinched fingers. The fence restrains children from running into the street and keeps strangers away. The uncluttered space allows teachers to keep a protective eye on all the children at the same time. Of course, the design is not entirely successful. Children fall over benches, they climb through holes in the fence and crash into walls. The fence is an imperfect barrier to outsiders. Despite its imperfections, I was led to see that playground structure served the interests of adults as well as those of children. In summary, the effects of structure are strong, but they are not uniform. Accordingly, it is difficult to draw simple conclusions about its effects. Second, structure is designed into systems and while these can be modified they cannot be changed radically. Third, structures typically reflect several goals and the half-resolved compromises among those goals. As a result the relationship between purpose and structure is seldom coherent and self-evident. Fourth, structures are designed for adults as well as for children.

The second illustration

I developed these ideas about structure using the university and my classes as the object of attention. The structure of my classes would be familiar to all of us. I lectured. You would have taken some of the obvious

facts for granted. Students sat while I talked. The course was paced by a reading list and assignments of my chosing. In class I would refine the content of the course by differentiating between the relevant and the trivial, and by interpreting and giving weight to the material. I was the expert, my position legitmated by my degree and title and reinforced in the dozens of ways I treated my students and they me. The first important aspect of structure was that I controlled and managed the content of the course.

The second aspect was that I evaluated students' performance using the standard grading system. Though there was no failing grade, so no fear of repetition or rejection, the students had a firm understanding that A's would help them through their graduate work. It was not clear why the grade mattered, students were not thrown out for bad grades nor were these considered in qualifying exams. However, students also took the class to prepare for a multiple choice exam which constituted one of several hurdles they had to overcome in their journey toward the doctorate. The exam was graded in quintiles and their score was taken into serious account in an interview which would decide their continued presence in the program.

These two features of the class--definition of relevance and grading--determined our behaviour. Student involvement was low and gradually drifted toward apathy as the semester progressed. They took notes, asked clarifying questions and tactfully suggested alternative points of view. Their passivity meant I often finished

the semester knowing only those who regularly talked in class; many remained invisible to me. There was no reason for them to disturb the situation, and every reason for them to keep the course as closely related to the content as possible. Quite early on in the semester we had colluded in our desire to get through the material and to minimize its difficulty.

The second quality I associate with the structure was a mild but persistent state of uncertainty. However much my students listened, they could not be sure they had captured all the right pieces of information or detected the nuances that make the difference between a right and wrong answer on a multiple choice test. Their uncertainty can also be attributed to the grading system for the class and for the exam. Even if they were certain of the content of the exam and of their preparation, their score would always reflect the performances of other students which were beyond their control. There was no way they could satisfactorily relate their effort to the outcome of the exam. Nevertheless, they were always prepared to take on themselves the responsibility for improving their exam result. They had begun the course in ignorance, they had to continually prove they could remember the content of the material and they knew failure to reproduce this material was their responsibility. I believe that this state of mind limited students' opportunity to think for themselves and the structure of the course certainly did not require it.

As I shall show later, I could modify this structure. But important aspects of the class structure can be associated with the institution's solution to the problem of engagement. The University of Southern California is a private school which derives a substantial fraction of its income from tuition which now costs $205 a unit. This sharpens a problem all schools face; finding a basis for attracting and holding students. A school without students, though professors often joke about it, is not a school. Students must be attracted to join and stay, and to stay for predictable periods of time. Certainty allows planning and stability which are consistent with the university's needs and the principle of tenure.

The most obvious way students are drawn and held to the university is through the management of the curriculum. The school sets out a sequence of courses which constitute a program and specifies the variety of fields that must be studied. The university smoothes the flow of students through the system and determines in advance how the distance to the degree will be travelled. Students can accurately predict when they will finish and measure their progress by courses completed. Their object at the school is to complete the courses which are defined to make up the program. The school has full control of the process for defining the boundaries of knowledge. That is not to say there is a precise curriculum; what is precise is the professors' power to define its limits. In fact, professors vary considerably in their interpretations, but not at all in their protection of their right to define the curriculum,

Because the school determines what the students have to know, they are implicitly defining what they do not know when they start school, when they start a new class or a new program. Their state of ignorance clings to them. They are never completely sure they have reached the point where they can stop, where they have done enough, where they have reached a satisfactory level of competence. Students' lives are characterized by this uncertainty and this is most clearly revealed through the traditional grading system. Professors may indicate the qualities they use to assign grades but they will seldom be completely explicit to the point a student can reliably predict the relationship between performance and grade. But more important than the secrecy of grading is the fact that grades are rationed and therefore measure the distribution of performances in the class rather than the student's competence judged against a standard of proficiency. That is, no matter how well a student performs, his grade will reflect how well others' performed too. Since these performances are beyond his control, the grade must itself be unpredictable. An analogy is appropriate here; education is comparable to a religion that sees man born first in a state of sin yet able to attain grace through diligent and frequent religious observance. This kind of religion sees people in need of spiritual rescue, it indicates how salvation may be reached but promises nothing because however hard man may try salvation is ultimately beyond his control. Similarly, schools believe students are ignorant and presents them with a long series of challenges such that

even the best students cannot be certain they have escaped their ignornace. They must keep trying with the result they are locked in a persistent relationship with the system.

My analysis of the class can be summarized this way:

University problem	-	ensuring engagement
General solution	-	control of the curriculum
	-	evaluation of performance that sustains uncertainty
Classroom structure	-	professors control definition or relevance
	-	uncertain grading system
Related student behaviour	-	passivity
	-	anxiety

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Let me re-emphasize that learning and thinking take place in this environment. However, they are not fostered by it. In addition I have some admiration for the design of the system. Other solutions to the problem of engagement are more costly and less certain. For example, an alternative solution is to promise students a better job if they graduate. This belief sustains many of my students. But from the school's point of view, this solution is precarious because it cannot control the job market. It also requires a great deal of effort to create an honest relationship between job skills and the school curriculum. It is much easier to create a self-contained, self-justifying curriculum. The advantage of the existing solution is that all its aspects are tightly controlled by the school. I would add that this solution likely works best when good jobs are growing in number, and employers are ready to use educational credentials to ration access. In these circumstances, students really can get better jobs which are apparently related to what they have learned in school. Even when jobs are not expanding, the system will work to the extent educational credentials are trusted and can be limited in number. In other words, the school's solution to the engagement problem itself depends on the labor market. This market is changing quickly in southern California and it is interesting to note that we have recently called into

question some of the basic institutional beliefs and justifications that have sustained the school for so long.

Though I believe that classroom structures are largely pre-determined by their institutional environments[6], I also believe that teachers have some discretion and control. Last fall, I redesigned the structure of one class with the intention of changing students' motivation for partipation. I was unsuccessful because I still taught the material for the exam, and retained the grading practices consistent with that exam. The institution's influence did not disappear. Students quickly saw that this was the real material and several waited impatiently for me to get to it. Therefore, the traditional structure persisted in the second half of the course when I and my students behaved in the ways with which I was now familiar. In the first half I changed the premises and structure of the class and with them the behaviour of the students.

The first premise was that all the students had the capacity to be competent, and creative. While I would describe the sociological enterprise, it was their responsibility to give meaning to the tradition. The old goal of the course was to get past the exam. The new goal was expressed by a mission: doing sociology. The mission did not have a predetermined destination, nor was it structureless. The object was to make sociology in the class without assuming that there was a single form or expression that this could take.

The second premise was that learning occurs in counterpart to direct experience and involvement with the ideas and words of sociology. Therefore, students had to be exposed to some of the main ideas of the discipline while evolving their own interpretations of their significance.

To illustrate the difference in approach I shall describe a well-known simulation: Starpower.[7] Starpower begins as a trading game among individuals with the object of accumulating 'wealth'. As the game progresses, players are put in groups which work to improve their collective position. One of these, the 'wealthiest', is later allowed to determine trading rules and their purpose than becomes that of balancing the need to secure their position without alienating the other players. The lower groups balance their opportunity for advancement through continuing to play the top group's game against strategies which will secure their self-respect, such as going on strike, but which disrupt the game and thus the possibility of advancement. Students experience the influence of the relationship among the groups in personal behaviour. They see that structure of the groups exposes people to abuse power and creates strong feelings of helplessness and hostility. Rules that are fair to one group are unfair to another even when they are created to help them.

While the simulation has a mission, it does not have an outcome, still less a correct outcome. The mission is to experience and interpret the effects of the structure of

the simulation on personal behaviour. All students' experiences have validity and combined, create a collective analysis of the simulation. My role is to explain how the game is organized and to reflect on past experiences with Starpower. I do not define relevance for the students. Each class creates its own story of the relationship between group and individual behaviour. This is easily said, but for it to be an honest part of the class work, several conditions must be met.

One condition is that students learn to tolerate uncertainty and with it, the possibility that an exercise or project won't 'work out'. Failure is associated with shame and guilt in schools; it is the essence of the motivating principle which I described earlier. Failure is anathema and a sign of incompetence and possible rejection. It is striking how miserable Starpower players feel when they are not winning in trading even when it is evident to them that they were crippled by the unstated rules which ensured they would be consigned to their low position in the game. Since the shame of failure is a powerful undercurrent of the traditional classroom it is necessary to build students' self-confidence that they can take risks that might embarrass them, or put them in situations where they would have been seen as inadequate. They have to be trained to make fools of themselves.[8] And they have to develop the trust that their interpretations and experiences have legitimacy.

I found students took time to develop this sense. For example, I had asked students one evening to watch

the TV news program and next day bring to class their analysis of the structure of the program. I wanted them to watch it with fresh eyes to see how the organization of the program conveyed an important part of the message. Several failed to do this. One said he had seen the news so many times he knew it backwards. I had not convinced him that he could see something new through watching the familiar event.

I also found that students are used to denigrating each other's work. They had to be trained to respect other students' efforts. For example, in class presentation of the main project, one student expressed her withdrawal from the class by publicly sorting through her purse while other students presented their work. Other students would ask questions to score points rather than aiming to strengthen the idea under discussion.

A second condition associated with the premises of the new class is contained in the idea of evolutionary structure. The class had structure, but it was a structure that shifted and evolved. This is because students' energy is the propellant of the class and this cannot be channeled predictably. In the old structure, I could specify the class' direction with accuracy. Now, students brought originality and variety to the class which influenced what we did and how we did it. For example, several made very direct assessments of the value of some of the activities I planned and this led to periodic discussions about what was going on and how it could be justified. The class itself was the object of self-conscious attention. In

general, I continually challenged and revised my own intellectual positions and my role in the class. The course became a guided dialog and this involved challenge and change and with these, the evolution of the design itself.

Finally, I found I got to know students. I differ from the accepted view that this makes teaching easier. The more aware I became of their differences and of how my perceptions of them changed, the more occupied I became with them and the variety of their purposes and styles which often conflicted.

I said the experiment failed because I employed the old structure, in the second half of the course, and fell back on the familiar institutional solution to the engagement problem. At the beginning, I had naively thought simple changes could be made to the surface structure of the class. In addition to the institutional investment in the old solution, which I accepted, most of my students have, through their work, heavy involvement in the familiar methods. I underestimated what it would take for them to consider a new approach.

Research on classroom structure in the early grades

I have used examples of structure which are not apparently related to Follow Through classrooms. I have talked about playgrounds, a museum and a university classroom because these are situations I can talk about from my own experience. In addition, their unfamiliarity may help others see their immediate situation a new way because it is safer to think a new thought using examples removed from their immediate arena. But I may have implied little research has been done on the relationship between classroom structure and behaviour and this is not the case. Educational researchers have put years of effort into understanding how classrooms work. I have read a portion of this work and it would therefore be misleading to summarize it all, however, I shall not pass it by.

Before I complain about the mainstream of this work I want to highlight three studies which I think illuminate the nature of school and classroom structure at the elementary level. The first, by Lortie[9], is an analysis of how teachers approach their work, seek satisfaction in it and cope with the distance between their expectations and experiences. I chose this work because of its emphasis on the way teachers define what they do and why they do it. Lortie enlarges our understanding of what it is like to face a classroom of students, how a teacher connects his priorities to the organization of the classroom and suggests that teachers may not be primarily concerned with the official goals of transmitting the curriculum. As a result, teachers are characterized as isolated from one another; schools appear

as loose federations of watchful and relatively insecure professionals rather than being tightly controlled systems progressing toward well-defined, collective goals. I pick this work not for what it says about the way to change classroom structure but for providing insight into the nature of the existing system. Lortie reveals important characteristics of the structure that must be encountered by people who seek to change it.

Like Lortie's work, Sharp and Green's[10] intimate study of one school in England emphasizes how teachers make sense of their world of work. The school in question avowed an open approach to education. Yet the three teachers who are the focus of the researchers' attention interpret this philosophy in ways which subvert it. The book expands understanding of teachers' priorities, the relationship of these to classroom practice and the ways their priorities take precedence over the intentions of the prinicpal. Sharp and Green show how the origins of structure should be traced from the larger system and show the discrepancy between intentions and reality in schools.

Wolcott[11] looked in detail at the tensions that grew between teachers and administrators as a result of the introduction of a new management system in a school district. Wolcott maps the cultures of teachers and administrators and indicates why the two groups face one another in a cold war. Their tension persists without resolution; each side using the other as a foil for the protection of their own concerns. Like the other studies, Wolcott presents a startling new basis for understanding the

place teachers fit in the school structure and the effects this has on the way they approach their work.

I have isolated these examples because they expand my understanding of the mechanics of schools. By contrast, the mainstream of classrom research has not led me very far and I think this is for four major reasons. First, psychologists have set the tone of this work placing heavy emphasis on attitudes and personality characteristics at the expense of describing the underlying rules of the game and its structure. In addition, their methodology fosters the search for particular relationships between discrete variables which also draws attention from the large picture.

Second, researchers have taken classroom structure for granted and focussed on the effects of variations within the basic rules of the game. For example, quantitative research overwhelmingly concentrates on the relationship between classroom environments and standardized achievement scores. This takes achievement tests for granted and further enhances their signifiance; it does not begin with a question about the part the tests play in setting the conditions of classroom work.

Third, classroom research is not very bold or imaginative in its search for comparisons which constitute the basis of most studies. For example, a typical study might compare the relative effectiveness of teachers with and without exposure to a new inservice training program. Researchers have persisted in looking at variations on the surface of the structure. Some studies work with more dramatic contrasts. For example, some researchers

have experimentally manipulated the rules of competition and success in classrooms[12]. Another author has compared the relationship of a teacher and an actor to their respective audiences.[13] A study which I believe remains to be done might concentrate on w. t happens when classroom stop functioning with the aim of analysing the essential features of classroom structure. In sum, researchers have not sought to reveal the fundamental regularities of classroom work.

Fourth, most research gives pride of place to the teacher implying the teacher has broad discretion to change the way classrooms are organized. In other words, little research examines the relationship between the system outside the classroom and the organization within.

This may seem discouraging. But it leads me to suggesting that the construction of new Follow Through models begins by abandoning much of the legacy of educational writing and research. I believe the work should begin by looking at the basis of engagement in schools and I propose that the proper starting point is the valuation of academic work.

In my tentative experiment my major failing was to devise a method of evaluation consistant with the rest of the class structure. I adopted the traditional practice but this only revealed the clash between standard grading and learning. At first it seemed that grading had to be abandoned altogether. But I now believe the solution lies in developing students' capacity to appreciate quality in their work. I sense this is what craft apprentices learn as a counterpart to developing their skills. They become their own judge. The best description of this process I know is Herrigel's account of a very particular and personal learning experience.[14] But it is hard even to contemplate an internalized method of evaluation in the context of schools. The word evaluation means something which is done to some one by someone else; it is the juice of power in schools.

Therefore I would start looking outside the public schools for different methods of engaging students in learning and for the structures associated with the methods. I would be especially interested in the methods used in corporations, in the military, in the multitude of commercial ventures which teach people how to alter themselves and their lives and in the unimaginable variety of places where learning takes place informally, on the job, in playgrounds and at home. Many of these would be inappropriate for

. . . institutionalized learning of the kind I expect to continue in America for the foreseeable future. But the purpose would be to expand upon the existing repertoire of solutions to the basic problem I have made the center of my attention here. My vision is that alternative solutions would not be proven by one or two years' trial; they would gain their support by displacing the existing structure. Over twenty years however, there is every reason that Follow Through could play an exciting part in starting this slow ball rolling.

Footnotes

1. For example, E.J. Cherian (A guide to Follow Through Washington, D.C.: 1973)
2. Walt Haney The Follow Through Planned Variation Experiment Volume V: A technical history of the National Follow Through Evaluation, Cambridge, Mass.: Huron Institute, 1977.
3. Walter Hodges et al. Forces for change in the primary schools, Ypsilanti, Mich.: The High/Scope Press, 1980.
4. Stebbins L.B. et al. Education as experimentation: A planned variation model, Volume IV-A, An evaluation of Follow Through. Cambridge, Mass.: Abt Associates, 1977.
5. Haney, op cit.
6. The best account of this I know is Rachel Sharp and Anthony Green's work on the character of classroom in an open English school (Schooling and Social Control. London: Routlege, 1978)
7. Starpower was devised by Garry Shirts and is copyrighted by the Western Behavioural Sciences Institute, La Jolla, California, 1969.
8. This idea was pointed out to me by Chuck Edelstein.

9. Dan Lortie Schoolteacher. Chicago: University of Chicago Press, 1975.

10. Rachel Sharp and Anthony Green Education and Social Control. London: Routledge and Kegan Paul, 1975

11. Harry F. Wolcott Teachers Versus Technocrats. Eugene, Oregon: Center for Educational Policy and Management, 1977

12. For example, the work done at Johns Hopkins organized under the theme of Teams, Games and Tournaments.

13. Lortie, op cit.

14. Eugen Herrigel Zen and the Art of Archery. New York: Vintage Books, 1971